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August 27, 1997

VIA HAND DELIVERY

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W. - Room 222
Washington, D.C. 20554

Re: RM No. 9147

Dear Mr. Caton:

On behalf of Harris Corporation - Farinon Division ("Harris"), we are filing an original and four (4) copies of its Comments in the above cited matters.

If there are any questions, do not hesitate to contact the undersigned.

Respectfully submitted,

FLETCHER, HEALD & HILDRETH, PLC



Leonard Robert Raish
Counsel for Harris Corporation-Farinon
Division

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Enclosures

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BEFORE THE

Federal Communications Commission

WASHINGTON, D.C. 20554

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AUG 27 1997

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Amendment of Parts 2.106 and 25.202)
of the Commission's Rules to Permit) RM No. 9147
Operation of NGSO FSS Systems)
Co-Frequency with GSO and)
Terrestrial Systems in the)
10.7-12.7 GHz, 12.75-13.25 GHz,)
13.75-14.5 GHz, and 17.3-17.8 GHz)
Bands, and to Establish Technical Rules)
Governing NGSO FSS Operations)
in these Bands)

To: The Commission

**COMMENTS BY
HARRIS CORPORATION-FARINON DIVISION**

Pursuant to Section 1.405 of the Commission's Rules,¹ Harris Corporation - Farinon Division ("Harris"), by its attorneys, hereby submits the Comments below in response to the Public Notice of the above-captioned Petition for Rulemaking ("Petition") filed by SkyBridge L.L.C. ("SkyBridge").²

I. GENERAL

Harris is a Florida corporation with its headquarters located in Melbourne, Florida. Through its Farinon Division, located in Redwood Shores, California, Harris designs, develops and manufactures microwave and multiplex systems used by licensees in the terrestrial fixed microwave service. Harris is one of the largest

¹47 C.F.R. §1.405 (1997).

²The Petition appeared on Public Notice on July 28, 1997. Public Notice, Rep. No. 2213 (Mimeo No. 75517, July 28, 1997).

suppliers of microwave equipment in the global market. As a leading manufacturer of equipment used in the terrestrial fixed services, Harris is interested in advancing the state-of-the-art in microwave technology and to maximize the efficient use of frequency bands made available for all microwave services.

II. PROPOSALS BY SKYBRIDGE NEED IN-DEPTH STUDY PRIOR TO RULEMAKING ACTION

Proposals for band sharing raise important issues that need to be studied in-depth to avoid future spectrum management problems. While sharing can be a tool to maximize efficient use of the spectrum, the fact is sharing will not always work. The Commission has acknowledged this.³ Some of the operational situations inherent in the SkyBridge Application and Petition parallel those that arose with regard to FCC deliberations on the 37.5 - 50.2 GHz band where "Band segmentation" is being applied. The situation in the 11 GHz band is considered more acute due to the present heavy occupancy of the band plus the known fact FS operations are being displaced from the 2 GHz. The 2 GHz is heavily used for FS operations throughout the United States. Sharing with new technology services, e.g., PCS and Mobile Satellite, have proved not to be feasible. The FS operations involved are being relocated to the 6 GHz and 11 GHz bands thereby increasing the congestion among the FS in those bands. The

³See, Allocation and Designation of Spectrum for Fixed-Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz, and 48.2-50.2 GHz Frequency Bands; Allocation of Spectrum to Upgrade Fixed and Mobile Allocations in the 40.5-42.5 GHz Frequency Band. Allocation of Spectrum in the 46.9-47.0 GHz Frequency Band for Wireless Services; and Allocation of Spectrum in the 37.0-38.0 GHz and 40.0-40.5 GHz for Government Operations, Notice of Proposed Rulemaking, IB Docket No. 97-95, RM-8811 (FCC 97-85, released March 24, 1997) at ¶ 8 ("Band Segmentation NPRM").

proposed superimposition of an NGSO as proposed by SkyBridge poses very serious sharing questions.

III. TIA VIEWS ARE SUPPORTED

Harris participated significantly in the preparation of the Comments being filed separately by TIA. There is concurrence that SkyBridge is apparently being cautious not to put any of its service links into any of the heavily used FS bands. Harris is interested in and concerned with the technical issues raised in TIA's response to the Petition. In particular, Harris notes that:

- (a) In the 11 GHz band, TIA finds the long term I/N ratio to be 21 dB worst than the one calculated by SkyBridge.
- (b) TIA finds the "short term" I/N ratio to be 13 dB worst than that calculated by SkyBridge. Of particular concern here is the fact that most U.S. microwave operators do not differentiate between short term and long term interference, in light of the critical purposes for which several of their systems are used.

As calculated by TIA, short duration interference events would not meet the long term interference criteria (the one recognized by all parties) by about 11 dB.

- (c) TIA calculates SkyBridge Gateways to FS stations coordination areas to be at least 160 km in the 11 GHz band or 20 times larger than the number

presented by SkyBridge.

**IV. FCC IS URGED TO SEEK CLARIFICATION
OF TECHNICAL ISSUES PRIOR TO
PROCEEDING TO RULEMAKING**

Noting the TIA findings, Harris would urge the FCC to:

- (a) require SkyBridge to refile its technical analysis in more details, and corrected when required, prior to any NPRM being released.
- (b) ensure that the eventual NPRM specifically ask for public comments on:
 - the advisability of using a short term interference criteria when judging of the impacts of short duration interference events on FS operations in the proposed bands
 - the kinds of siting and/or technical requirements that should be met by any future 11 GHz FSS Gateway to protect and facilitate the growth of fixed systems in that band.

The eventual NPRM should spell out the conditions of the proposed SkyBridge use of the 17.7-17.8 GHz band to allow commenters to judge on the potential for coordination in that band.

Finally, U.S. exporters of microwave equipment, like Harris, would need to understand how SkyBridge will address its use of the 14.4-14.5 GHz FS spectrum by

professional FSS user terminals in ITU Regions 1 and 3.

V. CONCLUSION

Harris supports the Conclusions set forth in the Comments of TIA that more information is needed to fully evaluate SkyBridge's sharing proposal. This information should be obtained from SkyBridge and then reflected in the eventual NPRM of this procedure.

Respectfully submitted

THE HARRIS CORPORATION - FARINON DIVISION

By: 
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Date: August 27, 1997
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